

Capacity Analysis

A good indication of the adequacy of the existing major street system is a comparison of the traffic volumes with the ability of the streets to move traffic freely at a desirable speed. The ability of a street to move traffic freely, safely, and efficiently with a minimum delay is controlled principally by the spacing of major devices utilized. Thus, the ability of a street to move traffic can be increased by restricting parking and turning movements, using proper sign and signal devices, and by the application of other traffic engineering techniques.

Capacity is defined as the maximum number of vehicles that have a reasonable expectation of passing over a given section of a roadway in one direction, or in both directions, during a given period under prevailing roadway and traffic conditions.¹ The relationship of traffic volumes to the capacity of the roadway will determine the **level of service** being provided. Six levels of service have been selected to identify the conditions existing under various speed and volume conditions on a highway or street.

The six levels of service are illustrated in Figure D1, and they are defined on the following page. The definitions are general and conceptual in nature, but may be applied to urban arterial levels of service. Levels of service for interrupted flow facilities vary widely in terms of both the user's perception of service quality and the operational variables used to describe them. Each chapter of the 1985 Highway Capacity Manual contains more detailed descriptions of the levels of service as defined for each facility type.

¹ Highway Capacity manual, Special Report 209, 1985, p. 1-3.